

U.S. Appln. No. 10/005,000
Page 4

REMARKS/ARGUMENTS

Claims 1-6 have been rejected under 35 USC 112, Second Paragraph as being indefinite for failing to particularly point out and distinguish claim the subject matter that applicant's regard as their invention. More particularly, the Examiner has raised questions regarding the limitation "the working fluid" appearing in Line 9 of Claims 1 and 4, and with respect to the language "expanding the through" in Claim 4. Applicant has amended Claims 1 and 4 in a manner that is believed to overcome the rejection under 35 USC 112 and withdrawal of the same is respectfully requested.

Claims 1, 3-4, 6-7 and 9 have been rejected under 35 USC §102(b) as being anticipated by Sugita et al., U.S. Patent No. 4,820,594. Likewise, Claims 2, 5 and 8 have been rejected under 35 USC 103(a) as being unpatentable over Sugita et al., U.S. Patent No. 4,820,594 as applied to Claims 1, 4 and 7, and further in view of La Pierre et al., U.S. Patent No. 6,348,278. Both rejections utilize Sugita et al. as a basis for the rejection. Sugita et al. teaches separating water from the anode exhaust outlet to reduce the temperature using a heat exchanger 105, and further followed by a knockout drum 106, whereby moisture in the anode exhaust is decreased to that corresponding to the vapor pressure and the temperature and water is separated. The separated water enters the water tank 107 and the anode outlet gas after the separation is brought to elevated pressure by means of an anode blower 110 driven by motor 111. See the paragraph 13, columns 4 and 5 of Sugita et al.

Applicants have amended independent claim 1 to recite "an organic based liquid working fluids" and "removing energy from the gas to change the gas to the organic based liquid working fluid." Sugita et al. individually or in combination with La Pierre et al. fails to suggest removing energy from the gas to change the gas to the organic based liquid working fluid. No prima facie case of anticipation or obviousness of claim 1 as amended can be established based on Sugita et al. individually or in combination with La Pierre et al.

U.S. Appln. No. 10/005,000
Page 5

With respect to claim 4, the Examiner's attention is respectfully directed to Sugita et al. at column 4, lines 10-11, which indicates that the reforming temperature is adapted to be about 800 degrees Celsius. The Examiner's attention is also respectfully directed to column 4, lines 30-32, which indicates that the working temperature of the fuel cell is about 650 degrees Celsius. As such, the material that the Examiner has identified as the working fluid in Sugita et al. would actually heat the fuel cell stack and not meet the recited limitation of "heating the organic based liquid working fluid to a gas using a heating source comprising a fuel cell stack". No prima facie case of obviousness can be established with respect to claim 4 in view of the references relied on by the Examiner.

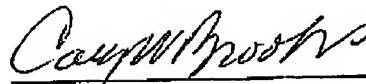
With respect to independent claim 7, Sugita et al. fails to disclose "pumping a fuel cell stack organic based liquid cooling fluid to an elevated temperature" followed by "thereafter transferring thermal energy between the fuel cell stack liquid cooling fluid and a fuel cell stack" as now called for by amended claim 7. The Examiner's attention is respectfully directed to the first written paragraph on page 4 of the Office Action of August 21, 2003 wherein the Examiner takes the position that Figure 1 shows the fuel cell system comprising a pump 109, which is connected to a waste heat boiler 120, which transfers heat to the water to create steam wherein the waste heat boiler 112 is further connected to the inlet of the reformer 100. As such, Sugita et al. at best teaches transferring heat to the fuel cell using a gas in the form of steam, and thus does not teach pumping a fuel cell stack organic based liquid cooling fluid to an elevated pressure nor transferring heat utilizing a fuel cell stack liquid cooling fluid. The Examiner's attention is also respectfully directed to the limitations reciting "heating the organic based liquid cooling fluid" and "immediately thereafter expanding the heated cooling fluid in the expander to produce shaft work". Sugita et al. teaches sending the "cooling fluid" from the waste heat boiler 120 to a reformer 101 and, therefore, does not teach the recited limitation. The addition of La Pierre et al. does not overcome the deficiencies of Sugita et al. No prima facie case of anticipation or obviousness can be established with to claim 7 as amended utilizing the references relied on by the Examiner.

U.S. Appln. No. 10/005,000
Page 6

With respect to the rejection of Claims 1, 4 and 7 under the judicially created doctrine of obvious-type double patenting as being unpatentable over Claims 21-22 of co-pending application Serial No. 10/005,928, Applicants have submitted herewith a terminal disclaimer over the same patent application. It is believed that the terminal disclaimer is sufficient to remove the rejection and withdrawal of the same is respectfully requested.

In view of the above amendments and remarks, applicants respectfully request reconsideration of the laws of the claims now in the case.

Respectfully submitted,



Cary W. Brooks, Attorney
Reg. No. 33361
313-665-4717